Examination of the remaining papers reveals the fact that the paleontological writers pay the least attention to descriptive names, for in their six papers, we find that of 59 proposed specific names 5, or less than 10 per cent., are descriptive; 23, or 38 per cent., are personal, and 31, or over 52 per cent., are locality names.

It would be uncharitable, if it were not quite uncalled for, to suggest either of the two most obvious reasons why an author, particularly a young or inexperienced writer, selects personal or locality names for his new species. But I can not avoid the feeling that these reasons occur to our fellow workers in the other fields of zoology, and may have something to do with the feeling, which it is often said they hold, that we systematists are engaged in a lower grade of work than that with which they are occupied.

HUBERT LYMAN CLARK
MUSEUM OF COMPARATIVE ZOOLOGY,
CAMBRIDGE, MASS.,
January 20, 1909

THE 6-INCH TRANSIT CIRCLE OF THE U. S. NAVAL OBSERVATORY

TO THE EDITOR OF SCIENCE: The following paragraph, which is an essential feature of a paper read by me before Section A, American Association for the Advancement of Science, in Baltimore on December 28, 1908, has been omitted from the abstract of that paper printed in SCIENCE for January 22, p. 154:

"It having been found that the instrument had suffered some damage from gradual deterioration during the five years that it had been out of use, the axis tube and circles and various other parts were sent to Warner & Swasey for repairs with a view to put the instrument in condition to do the fundamental work for which it was originally intended. This work is now nearly finished and the axis and some other parts of the instrument have been returned to the observatory. The pivots have been reground with great care, and elaborate tests have shown them to be very regular in shape and so nearly equal in size that the difference is inappreciable. It is hoped that the remaining parts of the instrument will be returned to us in a few days, in which case measures will be taken immediately to mount the instrument and commence the work of investigation and observation."

MILTON UPDEGRAFF

SCIENTIFIC BOOKS

Resultats du voyage du S. Y. Belgica en 1897, 1898, 1899, sous the commandement de A. de Gerlache de Gomery. Rapports Scientifiques. *Oceanography,* par HENRYK ARCTOWSKI et HUGH ROBERT MILL, 1908. *Physique du Globe,* mesures pendulaires, par G. LECOINTE, 1907. *Zoologie: Turbellarien,* von LUDWIG BÖHMIG, 1908. *Scaphopoden,* von L. PLATE, 1908. *Pennatuliden,* von HECTOR F. E. JUNGERSEN, 1907. *Cirripedia,* by P. P. C. HOEK, 1907. *Geologie:* Glaciers, par HENRYK ARCTOWSKI, 1908.

The reports of the *Belgica* expedition continue to appear, each adding to our knowledge of the Antarctic, its conditions or its fauna. The numbers of which the titles are summarized above are not less interesting than those which preceded them. Space permits but a brief account of their contents.

The soundings and serial temperatures of the sea water taken by the *Belgica* were the first in that region to be observed and corrected by the most modern instruments and methods. Two conclusions are of especial interest. The observations showed that the deeper waters of the Atlantic and Pacific are practically separated by submarine ridges which, extending from the southern end of the American continent to the Antarctic lands, present a barrier to the free circulation of the waters in question. Secondly, it is proved that the surface water of the sea is cooled by the low Antarctic air-temperatures and by floating and melting ice, below which is a warmer stratum which reaches its maximum temperature two or three hundred fathoms below the surface, after which the temperature gradually diminishes until the bottom of the sea is reached. The persistency of the warmer stratum indicates the slowness of changes due to convection, and the existence of currents

by which the warmer waters from the north replace the colder upper stratum which moves from the south. The temperatures naturally have a very narrow range, comprised within ten degrees of the point (28° F.) where sea water freezes.

The report on the pendulum observations is preceded by a short and pathetic account of the life and services of Lieutenant E. Danco, who died on the *Belgica,* at the age of twenty-nine years and to whom these observations had been confided. A fine portrait of Danco accompanies the notice. The work was carried on subsequently by Lecointe, but owing to a variety of circumstances the value of gravity was obtained by the expedition only at Punta Arenas in the Straits of Magellan.

In his discussion of the glaciers and bergs Arctowski considers first those of Tierra del Fuego, and secondly those of Gerlache Bay and the Antarctic lands. He concludes that the mountainous region of both was once continuous, the geology indicating much the same characteristics. He also contrasts the effect of the ice cap where incomplete and broken by nunataks, and when existing as a continuous covering extending to the sea level. In the latter case and for Antarctica generally he is disposed to believe that the ice is exercising a comparatively small abrasive function, and that its effect on the subjacent rock is very slight at present, the glacial streams being clear instead of milky and rock forms exposed by the retreating ice rounded off rather than channeled or excavated. This memoir is illustrated by numerous excellent half-tone plates derived from photographs.

The report on the barnacles considers a few Magellanic forms and one new truly Antarctic species, *Verruca mitra,* obtained in some 250 fathoms in south latitude 70°. Only one strictly Antarctic species was previously known, the *Scalpellum antarcticum* Hoek, obtained by the *Challenger.*

Only one species of Pennatulidæ was obtained on the expedition. This belongs to the genus *Umbellula* first described from the Polar Sea by Ellis from a dry specimen obtained in 1753. The *Belgica* species is *U. carpenteri* Kölliker, first obtained by the *Challenger.* Two other species are known from the Antarctic, of which one is so close to the Arctic *U. encrinus* of Linné as to be regarded by Kölliker as the same species.

Only two scaphopods were recognized by Plate in the collection, from south of latitude 70° S. One is referred to the *Dentalium majorinum* of Mabille and Rochebrune, variety *gaussianum,* previously described from material obtained by the Gauss expedition. The other, though probably a distinct species, was not sufficiently perfect for description.

The turbellarians comprised a new genus and species of Acoela, *Rimicola glacialis* Böhmig, and three species of Tricladida, of which one, *Procerodes hallezi,* is described as new. The latter is Fuegian, having been dredged in Beagle Channel. A new genus and subfamily are described to include *Procerodes* (now *Stummeria*) *marginata* Haller. The forms discussed are anatomically described and figured in great detail.

Wm. H. Dall

A Text-book of Mechanical Drawing and Elementary Machine Design. By John S. Reid, Professor of Mechanical Drawing and Designing, Armour Institute, and David Reid, formerly Instructor in Mechanical Drawing and Designing, Sibley College, Cornell University. Revised edition, enlarged. Pp. xi + 433. New York, John Wiley & Sons. 1908.

It would be difficult, in fact practically impossible, to compress within equal limits more of service to the student of machine design who wished at the same time to qualify as a draftsman. Not only are all necessary proportions and tables given for the designing of screws, nuts, bolts, keys, cotters and gibs, riveted joints, shafting, pipes and couplings, bearings, belt and toothed gearing, valves and general engine details, but there are also full data for drafting courses, with the unusual feature of time-allotment included, securing the early attainment by the novice of a commercial rate of speed in his work.

As indicative of the methods and procedure in one of the leading technical schools the book is of especial interest to teachers of